

IN THE CLAIMS:

Please amend claims 1-2, and 4 as follows:

1. (Currently Amended) A layered polycrystalline structure comprising:

a seed crystal layer containing a non-magnetic element;

a magnetic crystal layer containing ~~a~~the non-magnetic element diffused along a grain boundary, said magnetic crystal layer including a lower part partly excluding the non-magnetic element out of a lattice of the magnetic crystal layer and an upper part completely excluding ~~a~~the non-magnetic element out of ~~a~~the lattice of the magnetic crystal layer; and

a non-magnetic crystal layer interposed between the seed crystal layer and the magnetic crystal layer, said non-magnetic crystal layer containing ~~a~~the non-magnetic element at a first concentration level near the seed crystal layer and at a second concentration level smaller than the first concentration level near the magnetic crystal layer.

2. (Currently Amended) A layered polycrystalline structure comprising:

a seed crystal layer containing Cr ~~atoms~~element at a concentration level equal to or larger than 50at%;

a Co-based alloy magnetic crystal layer containing Cr ~~atoms~~element diffused along a grain boundary, said Co-based alloy magnetic crystal layer including a lower part partly excluding Cr element out of a lattice of the Co-based alloy magnetic crystal layer and

an upper part completely excluding Cr ~~atoms~~ element out of ~~a~~ the lattice of the Co-based alloy magnetic crystal layer; and

a Co-based alloy non-magnetic crystal layer interposed between the seed crystal layer and the Co-based alloy magnetic crystal layer, said Co-based alloy non-magnetic crystal layer containing Cr ~~atoms~~ element at a first concentration level near the seed crystal layer and at a second concentration level smaller than the first concentration level near the magnetic crystal layer.

3. (Original) The layered polycrystalline structure according to claim 2, wherein said seed crystal layer is a pure Cr layer.

4. (Currently Amended) A magnetic recording medium comprising:  
a substrate;

a seed crystal layer formed on a surface of the substrate and containing a non-magnetic element;

a magnetic crystal layer containing ~~a~~ the non-magnetic element diffused along a grain boundary, said magnetic crystal layer including a lower part partly excluding the non-magnetic element out of a lattice of the magnetic crystal layer and an upper part completely excluding ~~a~~ the non-magnetic element out of ~~a~~ the lattice of the magnetic crystal layer; and

a non-magnetic crystal layer interposed between the seed crystal layer and the magnetic crystal layer, said non-magnetic crystal layer containing a the non-magnetic element at a first concentration level near the seed crystal layer and at a second concentration level smaller than the first concentration level near the magnetic crystal layer.

5. (Original) The magnetic recording medium according to claim 4, wherein an amorphous layer is defined along the surface of the substrate.

6. (Original) The magnetic recording medium according to claim 4, wherein a Ti layer is defined along the surface of the substrate.

7-12. (Canceled)

13. (Previously presented) A layered polycrystalline structure comprising:  
amorphous nucleation sites physically separated on a surface of a substrate,  
each of said amorphous nucleation sites being made of an aggregation of predetermined atoms; and

a crystal layer covering over the surface of the substrate and containing crystal grains growing from the nucleation sites.

14-20. (Canceled)

21. (Previously presented) The layered polycrystalline structure according to claim 1, wherein the magnetic crystal layer contains grains having sizes equal to corresponding grains in the non-magnetic crystal layer.

22. (Previously presented) The layered polycrystalline structure according to claim 1, wherein the non-magnetic crystal layer has an epitaxial relationship to the seed crystal layer, the magnetic crystal layer having an epitaxial relationship to the non-magnetic crystal layer.

23. (Previously presented) The layered polycrystalline structure according to claim 13, wherein at least the surface of the substrate is amorphous.

24. (Previously presented) The layered polycrystalline structure according to claim 1, wherein a concentration of the non-magnetic element has a gradient from the first concentration level near the seed crystal layer to the second concentration level near the magnetic crystal layer.

25. (Previously presented) The layered polycrystalline structure according to claim 1, wherein the magnetic crystal layer contains the non-magnetic element at a concentration level equal to the second concentration level along the grain boundary.

26. (Previously Presented) The layered polycrystalline structure according to claim 1, wherein the part of the magnetic crystal layer is a magnetic grain.